

REMARKS

Upon the foregoing amendment, claims 34, 35, 47, 48 and 51-66 are pending, with claims 34 and 47 being the independent claims. Claims 51-66 are added.

Rejections Under 35 U.S.C. 103(a)

Claims 34-35 and 47-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent No. 6,504,898 to Kotler *et al.* (“Kotler”) in view of U.S. patent No. 4,852,138 to Bergeret *et al.* (“Bergeret”). The Examiner argues that Kotler teaches a method and apparatus for optimizing the irradiation of products wherein maximum and minimum dose rates are determined for a given geometry of the product and that the intensity of the radiation is modified by means adjustably modulating the shape of the radiation generated such that the entire product receives the optimal amount of radiation consistently. The Examiner further relies upon Bergeret for disclosing multiple sources of radiation and asserts that it would have been within the purview of one of ordinary skill in the art to substitute two sources for irradiation into the Kotler system because it would allow for simultaneous treatment of a large number of products. Applicants respectfully traverses this rejection.

Kotler describes an apparatus that attempts to provide a uniform dose of radiation to a product by providing a radiation source, an adjustable collimator, a turntable and a control system. Kotler, col. 3, lines 44-46; col. 4, lines 52-65; and col. 12, lines 44-60. The turntable is used so that all sides of the product may be exposed to the radiation source. The adjustable collimator is defined as “a collimator with an adjustable aperture that shapes the radiation beam into any desired geometry.” Kotler, col. 7, line 66 - col. 8, line 4; and col. 8, lines 15-17. The collimator is used to alter the size of the a radiation beam provided by the radiation source so that

peripheral portions of the product are not exposed to higher doses of radiation due to their geometry.

Kotler specifically distinguishes systems that include conveyor transport systems and multiple radiation systems and states that those systems apply higher doses of radiation at the periphery than the material located at the center of the product. Kotler, col. 2, lines 24-29 and lines 50-57; and col. 3, lines 23-27. Bergeret describes a conveyor system that includes multiple sources, but because Kotler specifically distinguishes such systems, a person having ordinary skill in the art would not have been motivated to combine the references.

Furthermore, Kotler and Bergeret fail to disclose all of the features of independent claim 34. Claim 34, as amended, recites a method of irradiating an article using a plurality of radiation sources disposed on opposite sides of a load transport member configured to transport the article along a transport path. The method includes the step of positioning a radiation reducing member either into or out of a radiation path of a radiation source based on a determination of cumulative radiation. Kotler does not disclose positioning a radiation reducing member either into or out of a radiation stream. The collimator of Kotler is not moved, but instead, the adjustable aperture is changed to shape the radiation stream into a desired geometry. This is used to target the radiation, not to adjust the overall amount of radiation applied. Bergeret does not include a teaching of altering the radiation provided by the radiation sources in any way. Because both references fail to disclose or suggest all of the features recited in claim 34, claim 34 is patentable over the combination of Kotler and Bergeret. Claim 35 depends from and includes all of the features of claim 34 and is therefore patentable over the combination of Kotler and Bergeret for at least the reason described above with respect to claim 34.

Similarly, Kotler and Bergeret fail to disclose all of the features of independent claim 47. Claim 47, as amended, recites a system for irradiating an article. The system includes a radiation reducing member and a radiation reducing member actuator that is configured to move the radiation reducing member between a first position wherein the radiation reducing member is disposed outside of the radiation stream of a radiation source and a second position wherein the radiation reducing member is disposed within the radiation stream and between the radiation source and the transport path. As described above, neither Kotler nor Bergeret disclose a radiation reducing member that is configured to be positioned either within or outside of a stream of radiation provided by a radiation source. For at least that reason, claim 47 is patentable over a combination of Kotler and Bergeret. Claim 48 depends from and includes all of the features of claim 47, and is patentable over the combination of Kotler and Bergeret for at least the same reason described above with respect to claim 47.

New Claims 51-66

New claims 51-66 are added. Claims 51-64 depend from and include all of the features recited in claim 47. Therefore, claims 51-64 are patentable. Similarly, claims 65 and 66 depend from and include all of the features recited in claim 34. Therefore, claims 65 and 66 are patentable. Support for new claims 51-66 may be found throughout the specification, claims and figures as originally filed.

Conclusion

It is believed this amendment now has placed the application in condition for consideration and allowance. If necessary, the Commissioner is hereby authorized in this and

concurrent replies to charge payment (or credit any overpayment) to Deposit Account No. 50-0683 of Luce, Forward, Hamilton & Scripps.

Respectfully submitted,



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Date

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